In multiple sclerosis (MS), the immune system attacks nerve cells in the brain, spinal cord and optic nerves. This disease activity can cause symptoms and disability.

There are two main types of disease activity:

- **Visible**
  - Such as a relapse
- **Underlying**
  - Detected with MRI brain scans

Disease activity and disability progression can occur at the earliest stage of the disease. So one of the goals of MS treatment is to control disease activity as early as possible.

Disease progression in multiple sclerosis

Multiple sclerosis (MS) is a chronic, inflammatory disease of the central nervous system that affects the myelin sheath which surrounds nerve cells. While it is currently incurable, treatments are available to manage symptoms and slow disease progression.

**Disability progression**

Most people with multiple sclerosis (MS) experience an increase in physical disability at some point in time. Disease activity is the main cause of disability progression, and it can occur at any time throughout the course of the disease. Disability progression can be measured using various scales and tests, such as the Expanded Disability Status Scale (EDSS) and the Timed 25-Foot Walk (T25-FW).

**Types of disability**

People may experience disability differently, depending on what part of the brain, spinal cord or optic nerves is affected. Common types of disability include:

- Fatigue
- Chronic pain
- Speech
- Hand function
- Bowel/bladder
- Walking
- Vision
- Coordination

**Measuring disability**

Disability is measured in different ways:

- **Expanded Disability Status Scale (EDSS)**
  - Measures the degree of physical disability based on a neurological exam of seven functional systems throughout the body, plus a person's walking ability. The EDSS and its predecessor are used in nearly every MS clinical trial in the last 40 years.

- **No Evidence of Progression (NEP)**
  - A composite endpoint that measures the proportion of people with no confirmed progression of disability status (EDSS), walking speed, and upper extremity function. It may represent a new outcome for people with PPMS.

- **Timed 25-Foot Walk (T25-FW)**
  - Determines walking speed by measuring how fast a person can walk 25 feet.

- **Nine-Hole Peg Test (9-HPT)**
  - Measures arm, wrist and hand function by timing the speed in which a person can move nine pegs into nine holes and then remove them using one hand at a time.

**Disease-modifying treatment**

Disease activity and disability progression can occur at the earliest stage of the disease. Early treatment with an effective DMT may reduce disease activity and disability progression. Treatment initiation is crucial to prevent further disability.

**References**

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